The Standards Forum

News on the DOE Technical Standards Program

Volume 4, Number 4 - March 1997

Let's Collaborate on Global Standards!

By Jerry L. Smith, leader of the International Program in the Strategic Planning Office of the Defense Information Systems Agency (DISA). Mr. Smith may be reached at 703-735-3305 or ***smith5j@ncr.disa.mil****. This article appeared in the November 1996 issue of the Open Systems Standards Tracking Report,* and was used by permission.*

The international marketplace is becoming more integrated worldwide with the emergence of a truly global economy. New technology continues to evolve at an increasing pace. For enterprises to succeed in this environment, they must adapt to radical new concepts such as partnering, electronic communication, and information sharing.

The fuel of technology evolution is creativity and innovation — the breeding and fermentation of new ideas and techniques. There is a natural tension between technology evolution and standards as standards can inhibit creativity and innovation. The gap between technology evolution and standards must be just right — too narrow a gap stifles innovation and creativity, but too large a gap is manifest in large economic and social costs.

All commerce — national, regional, global — is becoming increasingly dependent upon information. The reduction of trade barriers and related globalization efforts spotlight the critical need for timely, relevant standards that enhance enterprise integration and worldwide commerce. How a particular nation or region will fare in this new world economy will be directly related to their use and application of information and communications technology (ICT) standards as a tool for trade development and growth.

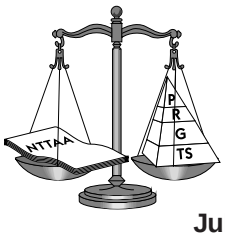
(Continued on Page 9)

* *Available at no subscription cost from the Industry Standards and Consortia group, Digital Equipment Corporation. To subscribe, send Email to* ***bob.schaumann@ljo.dec.com****.*

1997 DOE Technical Standards Program Workshop

Link to the Agenda

Striking The Right Balance: DOE's 'Work-Smart' Implementation of The National Technology Transfer and Advancement Act of 1995

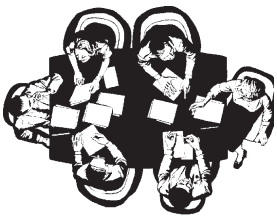


July 8–10, 1997

Loews L'Enfant Plaza Hotel

Washington, D.C.

Update on Topical Committees



In the June 1996 edition of *The Standards Forum*, Rick Serbu, DOE Technical Standards Program (TSP) Manager, announced a new program initiative to identify emerging or existing technical working groups of DOE/contractor subject matter experts as DOE "topical" standards committees. Working in cooperation with the TSP, these committees would develop and coordinate standardization documents and related technical issues with the intent of gaining Department-wide consensus on the content of new or revised technical standards in specific subject matter areas. Topical committees would also represent DOE's interests in forming direct ties with counterpart working groups in voluntary standards developing organizations to participate in the development and review of national and international technical standards. In this role, topical committees can provide a path for the transfer of DOE-developed technologies and practices to the private sector. When recognized, topical committees would be identified on the World Wide Web under the Technical Standards Program Web site (**http://apollo.osti.gov/html/techstds/techstds.html**) and included in the latest edition of DOE-TSL (Technical Standards List)-2, *Directory of Points of Contact for the DOE Technical Standards Program*.

(Continued on Page 2)

INSIDE THIS ISSUE

From the Manager	2	Meetings	11
TSM Spotlight	3/4	Standardization = Improvements	12
Standards Actions	5	The OSTI Corner	12
News Briefs	10		

a note from the Manager...

DOE Technical Standards Program

The technical standards policies and plans being developed and implemented by the Federal Government, primarily the President and Congress, are causing major changes in the way federal agencies work and interact with private industry, standards development organizations, and each other. These are bipartisan efforts directed at establishing a federal standards-based culture, and making government more efficient and effective, as well as smaller and less costly. The changes have been designed to change and enhance the way government and industry work together, to establish common modes of conducting business, to improve U.S. technology transfer, and to strengthen the competitive position of U.S. industry in world markets. The changes are also marked by much stronger U.S. participation with world standardization bodies and in the development of international standards, and awareness of how standards are used by governments to curtail competition. Terms like strategic standardization, harmonization, conformity assessment, and laboratory accreditation have emerged as descriptors of outcome-oriented, cooperative, interactive processes designed to achieve these new goals.

As a manager or staff member (federal or contractor) engaged in planning DOE's work, whether it be strategic planning or DOE's standards development efforts, you need to be aware of the activities and changes that will be driving your efforts from the highest levels of government. In order to establish agency and program goals that are consistent with executive and congressional strategic plans and the laws, policies, executive orders, and mandates that carry these plans out, you must be aware of their content and intent. It will be difficult to plan the proper course for our agency and its organizations without knowledge of what we are expected to do, and some of how we are to do it. Attend the DOE Technical Standards Workshop, at Loews L'Enfant Plaza Hotel in Washington, D.C., on July 8, 9, and 10, and let our expert presenters help you become aware of a broad world of change that is encompassing DOE and is affecting you.

— Rick Serbu

Update on Topical Committees (Continued from Page 1)

Subsequent to announcing this initiative, several activities (discussed below) have taken place regarding the formation and recognition of topical committees:

1. An initial draft of a new Technical Standards Program Procedure (TSPP) discussing the responsibilities of and TSP interface protocol for topical committees has been prepared. The draft procedure is to be reviewed by the Technical Standards Managers' Committee and is expected to be approved for use in May 1997.
2. A DOE Metrology Committee is being formed. This committee, which would serve to address metrology needs within the DOE community, held an organizational meeting in Albuquerque, New Mexico in August 1996. A follow-on meeting, looking at broader metrology issues related to laboratory accreditation, is scheduled for March 19-20, 1997, at the National Institute of Standards and Technology. Information on this meeting can be found under the TSP Web site.
3. A number of Special Interest Groups (SIGs) are currently in existence under the Training Resources and Data Exchange (TRADE) organization. Although primarily oriented toward addressing training needs within the DOE community, the documents developed by the TRADE SIGs have been valuable sources of technical guidance, good practices, and lessons learned from field experience. In some instances, the SIG publications represent "de facto" technical standards within DOE. In a November 18, 1996, memorandum, the DOE sponsors of the individual SIGs were notified of the TSP's intent to recognize the SIGs as topical committees. The DOE SIG sponsors were requested to begin working with the SIG leadership to address DOE standards/standardization needs through the use of SIG products and technical expertise. In addition, the TRADE Executive Committee expressed its support for this initiative of the TSP during a briefing conducted by Rick Serbu on January 29, 1997.

The issue of topical committee recognition and interaction with voluntary standards developing organizations will be discussed in a meeting on July 8, 1997, immediately before the 1997 TSP workshop, at the Loews L'Enfant Plaza Hotel in Washington, D.C. If you have any questions regarding the formation, identification, and recognition of DOE topical committees, please contact Rick Serbu, EH-31, 301-903-2856 (voice), **Richard.Serbu@eh.doe.gov** (Email).

The TSP Web Site - Your Route to TSP Information

One of the features of the TSP Home Page is a section entitled Information Searches. There you will find links to:

- DOE-TSL-1, "Department of Energy Standards Index" - Listings of current DOE technical standards (TSs), non-Government standards (NGSs) adopted by DOE, other Government documents, and canceled DOE TSs.
- A list of recently approved DOE TSs (DOE TSs added to the distribution since the last publication of DOE-TSL-1).
- DOE-TSL-4, "Directory of DOE and Contractor Personnel Involved in Non-Government Standards Activities" - A cross-reference of personnel involved in NGS bodies.
- Technical Standards Managers List - A current listing of the Technical Standards Managers, *with Email hot links*.
- Project Registration Information - This document lists project registration number assignments and their status.

The URL to the TSP Home Page is:
http://apollo.osti.gov/html/techstds/techstds.html.

Technical Standards Manager Spotlight

John Notestein
Technical Standards Manager
Federal Energy Technology Center

John Notestein is Chief Engineer of the newly formed Federal Energy Technology Center (FETC). FETC is a consolidation of the former Morgantown and Pittsburgh Energy Technology Centers. It was officially "born" December 2, 1996. Prior to this date John was Chief Engineer of the Morgantown Energy Technology Center and had been in this capacity since 1989. For 13 years prior to this he was the Associate Director responsible for all in-house R&D activities.

The Chief Engineer, in general, is a technical "consultant and conscience" to the organization, but also serves in many specific Senior Staff roles. Two in particular are the DOE Technical Standards Manager and Quality Assurance Manager.

The FETC is the primary implementation arm of the DOE Office of Fossil Energy. It has a Federal staff of over 500 people who both conduct in-house research and manage over 600 external R&D projects. The FETC is also one of the few DOE organizations in which the U.S. Government is not the direct user or customer of the organization's products and services. Specifically, U.S. industries having an "energy-relating" characteristic that is key to their business areas are the FETC's primary customers (e.g., electric utilities, major equipment suppliers, natural gas producers, and various waste management and cleanup organizations). As a consequence, commercial and economic factors are major influences in the way the FETC does its business.

"To be effective in developing new and useful knowledge, you *always* have to be able to distinguish between that which you '*think you know*' and that which you can '*prove you know*' -- and the knowledge has to be developed *cost effectively* and it must be *transportable* to other settings and other implementors. The use and significance of established technical standards and rational quality assurance activities are absolutely *critical* to achieving these ends!"

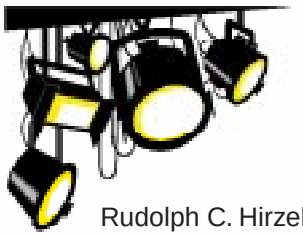
— John Notestein

John worked for private industry in various facets of the "advanced energy" business for 16 years prior to coming to DOE. There has always been a "standards and quality" component in his positions. All of his 36 years of professional work have been in some form of new technology development. John told *The Standards Forum* that he has a guiding principal that has served him well: "To be effective in developing new and useful knowledge, you *always* have to be able to distinguish between that which you '*think you know*' and that which you can '*prove you know*' -- and the knowledge has to be developed *cost effectively* and it must be *transportable* to other settings and other implementors. The use and significance of established technical standards and rational quality assurance activities are absolutely *critical* to achieving these ends!"

The Technical Standards Manager role was a natural one for John. He is a "charter member", having attended the first Technical Standards Managers' national meeting in 1992. However, the meeting was perplexing to John and he felt a bit like an outsider because the thrust at that time seemed to be the development of DOE Standards to accomplish the "unconventional" work done at many DOE sites. In contrast, the thrust at Morgantown was to identify established work and results and to use various types of established standards as a "pedigree" basis for the work. "Fortunately," John says, "the unclassified and non-nuclear nature of our work made it much easier to locate applicable consensus standards." Since 1992, the overt emphasis in DOE has shifted to the use of consensus standards to the maximum degree possible, and John views this shift as very good for DOE. However, John does admit to feeling somewhat guilty when he appears at a Technical Standards Managers' meeting without any burning standards issues. "I feel like the Maytag repairman of the standards community," says John. There are advantages to working at a site whose activities are rooted in commercial practices.

John received the Bachelor of Science in Aeronautical Engineering (aerodynamics) and Master of Science in Mechanical Engineering (thermodynamics and heat transfer) degrees from Purdue University. He has worked in development and research areas involved in aircraft and rocket propulsion, spacecraft nuclear power systems, direct energy conversion, solar and other forms of renewable terrestrial energy systems, and fossil energy.

Technical Standards Manager Spotlight



Rudolph C. Hirzel
Technical Standards Manager
Chicago Operations Office

Rudolph C. Hirzel has been the Technical Standards Manager (TSM) for the Chicago Operations Office (CH) since 1993. During this time, he has been involved with the DOE Department Standards Committee, implementation of the Quality Assurance Rule, the EH policy/standards streamlining initiative, development of DOE Guidance on Assessment and CH guidance on the directives process, and various other environment, safety, and health activities.

Rudy's background in Quality Assurance (QA) started soon after receiving his engineering degree from the University of Michigan in 1978. Rudy said, "I was working as a staff engineer for a materials test laboratory in central Illinois and had a chance to work at a power plant under construction as a quality assurance engineer. That led to a continuing career in QA, and I haven't regretted a minute of it." Rudy enjoys the variety and continuing challenges in QA. He has learned about power operations, safety and health programs, radiation protection, design and construction practices, and contract management. At DOE he has learned about basic and applied research and the operation of large research devices.

Rudy's job experience includes working for Boston Edison, Philadelphia Electric, Tennessee Valley Authority, and Consumers Power Company. He is an active member of both the American Society for Quality Control and the American Society for Training and Development. He is currently a QA engineer in the Technical and Administrative Services Group at CH.

Rudy told *The Standards Forum*, "When I was first asked to be the CH TSM, I had no idea what the job entailed. I understood the importance of standards, but frankly, I had a lot to learn about the DOE system. My first real experience with consensus standards development had started in 1987. Thirty-five professionals from across the country met three times a year to work on surveillance guides. That experience gave me a whole new appreciation for the difficulties in reaching consensus and trying to edit many different inputs into a coherent document." This experience has served Rudy well in his new TSM job. One of the immediate challenges he faced as a TSM was how to handle the flow of paperwork from the Technical Standards Program Office to the various CH-managed laboratories and facilities. These laboratories and facilities exist in five states as CH-assigned "business groups." Rudy's challenge was the timely distribution of technical standards review copies. The logistics of distributing technical standards once they were issued was also a problem. "My solution," Rudy said, "was to work with the CH business groups to get TSMs assigned for each location." In this way, the people who really needed the documents could get them directly. All comments come to Rudy for consolidation into a CH position before forwarding on in the standards activity.

"I consider standards the cornerstone of a good quality program. If we define quality as 'meeting established goals and objectives,' this philosophy applies to operations as well as safety or business management. Standards provide us with methods for both *doing* certain activities and *recognizing* successful accomplishments."
— Rudy Hirzel

Rudy's appreciation for standards is noteworthy: "I consider standards the cornerstone of a good quality program. If we define quality as 'meeting established goals and objectives,' this philosophy applies to operations as well as safety or business management. Standards provide us with methods for both *doing* certain activities and *recognizing* successful accomplishments. Broad program requirements with performance expectations give a framework for the 'good performance' picture, but for a worker to really understand what has to be done, that picture must be filled in. Standards are a perfect medium for this, providing a bridge from the policies at the top of the directives triangle to the worker implementing the requirements."

"My involvement with the Technical Standards Managers' Committee has been extremely enjoyable and beneficial," Rudy says. "It's always reassuring to go to a meeting and hear others talk about the same problems that I am struggling with. Even though we come from different backgrounds and organizations, it always amazes me how we can focus on an issue and develop real solutions in a relatively short time."

"I believe that our biggest challenge in the future will be centered around funding issues," Rudy concluded. "It's not really a matter of being able to travel to TSM meetings. We can solve those kinds of issues through a creative use of electronic communication media. What I am more concerned about is DOE's continued involvement with industry standards bodies. Since we are now required by law to use voluntary consensus standards wherever possible, it is important that we stay involved with their development to ensure that those standards provide what we need."

Standards Actions

DOE Technical Standards Recently Sent for Coordination

The appropriate Technical Standards Managers (TSM) will provide selected reviewers with copies for comment. If you wish to comment on a particular document, please notify your TSM. DOE documents sent for coordination during the past month are given below.

- *Internal Dosimetry*, SAFT-0057, (Judith Foulke, EH-52, 301-903-5865, **Judy.Foulke@hq.doe.gov**); comments due June 23, 1997.

Projects Initiated

The following DOE technical standards projects were recently initiated. If you are interested in participating in the development of these standards, please contact the persons listed below.

- *Department of Energy Laboratory Accreditation Program for Personnel Dosimetry*, Project Number SAFT-0063; Robert Loesch, EH-52; 301-903-4443, **Loesch@viper.eh.doe.gov**.
- *Design, Procurement, and Use of Pressure Vessels for Explosive Charge Containment*, Project Number SAFT-0064, Jeffry L. Roberson, DP-45; 301-903-8026, **Jeffry.Roberson@dp.doe.gov**.

In addition, the following projects have been initiated to reaffirm existing DOE technical standards. If you have questions on these projects, please contact the person listed below.

- *Guide to Good Practices for Developing Learning Objectives* (previously DOE-STD-1005-92), Project Number 6910-0062; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices: Evaluation Instrument Examples* (previously DOE-STD-1006-92), Project Number 6910-0063; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices for Development of Test Items* (previously DOE-STD-1009-92), Project Number 6910-0064; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices for Training of Technical Staff and Managers* (previously DOE-STD-1008-92), Project Number 6910-0065; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices for Teamwork Training and Diagnostic Skills Development* (previously DOE-STD-1007-92), Project Number 6910-0066; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices for the Design, Development, and Implementation of Examinations* (previously DOE-STD-1011-92), Project Number 6910-0067; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.
- *Guide to Good Practices for On-The-Job Training* (previously DOE-STD-1012-92), Project Number 6910-0068; Jim Pearrell, EH-31; 208-526-4379, **jsp@inel.gov**.

Technical Standards Program

Document Status as of 2/26/97

In Conversion	In Preparation	Out for Comment	Published in Past 30 Days
4	62	12	2

Total in process = 74

Documents Recently Published

The following DOE documents have recently been published:

- DOE-STD-3015-97, *Nuclear Explosive Safety Study Process*, January 1997.
- DOE-HDBK-1103-96, *Table-Top Needs Analysis*, March 1996.

DOE employees and DOE contractors may obtain copies from the DOE Office of Scientific and Technical Information (OSTI), P.O. Box 62, Oak Ridge, Tennessee 37831; telephone 423-576-8401 or FAX 423-576-2865.

Subcontractors and the general public may obtain copies from the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, Virginia 22161; telephone 703-487-4650 or FAX 703-321-8547.

The Technical Standards Program is sponsoring a project at OSTI to place *all* DOE technical standards (i.e., DOE Standards, Specifications, Handbooks, and Technical Standards Lists) on the Internet. To date, 112 DOE technical standards have been placed on the Internet at: **http://apollo.osti.gov/html/techstds/techstds.html**.

(Continued on Page 6)

Standards Actions (Continued from Page 5)

The following DOE technical standard has recently been placed on the Internet:

- DOE-HDBK-1003-96, *Guide to Good Practices for Training and Qualification of Maintenance Personnel*, March 1996.

Non-Government Standards

American National Standards Institute

The American National Standards Institute (ANSI) publishes coordination activities of non-Government standards (NGS) biweekly in *ANSI Standards Action.* Please note that distribution of *ANSI Standards Action* is normally made only to individual members of ANSI or in group mailings to site members of ANSI. For information on site membership, ask your local ANSI contact. For information on individual or group ANSI membership, call Susan Bose at 212-642-4948, Email **sbose@ansi.org**. For further information on distribution policies of ANSI publications, call the ANSI distribution manager at 212-642-4952.

Copies of *ANSI Standards Action* and ANSI-published documents may be obtained from ANSI, 11 West 42nd Street, New York, NY 10036 (212-642-4900, FAX 212-302-1286). Comments on listed draft standards may be submitted by contacting the standards developing organization for information.

The following listings are extracted from *ANSI Standards Action* and are representative of NGS development activities that may be relevant to DOE operations. Refer to *ANSI Standards Action* for a complete listing of changes and new publications, standards-developing organizations, and additional information about submitting comments.

The following American National Standards are currently in coordination:

- A 1264.2, *Provision of Slip Resistance on Walking/ Working Surfaces* (new standard); comments due March 18, 1997.
- API 521, *Guide for Pressure-Relieving and Depressurizing Systems* (revision of ANSI/API 521-1992); comments due April 15, 1997.
- API-RP-500-1997, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1, or Division 2 - Second Edition* (new standard); comments due March 30, 1997.
- ASME BPVC, *Revision: 1997 Addenda, ASME Boiler and Pressure Vessel Code* (revision of 9/20/96 meeting); comments due March 18, 1997.
- ASME PTC 22, *Gas Turbines* (revision of ANSI/ASME PTC 22-1985); comments due March 30, 1997.
- ASTM E0029, *Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications* (new standard); comments due March 30, 1997.
- ASTM E1355, *Guide for Evaluating the Predictive Capability of Fire Models* (new standard); comments due April 15, 1997.
- ASTM Z2537Z, *Test Method for Room Fire Test of Wall and Ceiling Materials* (new standard); comments due April 15, 1997.
- AWWA C513-97, *Open Channel, Fabricated-Metal Slide Gates* (new standard); comments due April 15, 1997.
- IEEE 1249, *Guide for Computer Based Control for Hydroelectric Power Plant Automation* (new standard); comments due April 15, 1997.
- IEEE 1299/C62.22.1, *Guide for the Connection of Surge Arresters to Protect Insulated, Shielded Electric Power Cable Systems* (new standard); comments due April 15, 1997.
- NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines* (revision of ANSI/NFPA 37-1994); comments due April 11, 1997.
- NFPA 59, *Standard for the Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants* (revision of ANSI/NFPA 59-1995); comments due April 11, 1997.
- NFPA 801, *Standard for Facilities Handling Radioactive Materials* (revision of ANSI/NFPA 801-1995); comments due April 11, 1997.
- NFPA 803, *Standard for Fire Protection for Light Water Nuclear Power Plants* (revision of ANSI/NFPA 803-1993); comments due April 11, 1997.
- NFPA 1962, *Standard for the Care, Use and Service Testing of Fire Hose, Including Couplings and Nozzles* (revision of ANSI/NFPA 1962-1993); comments due April 11, 1997.
- NFPA 8505, *Recommended Practice for Stoker Operation* (revision of ANSI/NFPA 8505-1992); comments due April 11, 1997.
- UL 977, *Standard for Safety for Fused Power-Circuit Devices* (new standard); comments due April 15, 1997.
- UL 1254, *Standard for Safety for Pre-Engineered Dry Chemical Extinguishing System Units* (new standard); comments due March 18, 1997.
- UL 1469, *Standard for Safety for Strength of Body and Hydraulic Pressure Loss Testing of Backflow Special Check Valves* (new standard); comments due April 15, 1997.
- UL 1660, *Standard for Safety for Liquid-Tight Flexible Non-metallic Conduit* (new standard); comments due March 18, 1997.
- UL 1767, *Standard for Safety for Early-Suppression Fast-Response Sprinklers* (new standard); comments due March 18, 1997.
- UL 2225, *Standard for Safety for Metal-Clad Cable-Sealing Fittings for Use in Hazardous (Classified) Locations* (new standard); comments due April 15, 1997.

(Continued on Page 7)

Standards Actions (Continued from Page 6)

The following newly published American National Standards are available from ANSI:

- ANSI A10.31-1995, *Construction and Demolition Operations - Safety Requirements, Definitions, and Specifications for Digger Derricks.*
- ANSI/ISO 14001-1996, *Environmental Management Systems - Specification with Guidance for Use.*
- ANSI/NACE MR0175-95, *Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment.*
- ANSI/NFPA 255-1996, *Surface Burning Characteristics of Building Materials.*

The following international standards are currently in coordination (comment due dates follow each entry):

- ISO/DIS 3183-3, *Petroleum and natural gas industries - Steel pipe for pipelines - Technical delivery conditions - Part 3: Pipes of requirement class C* (revision of ISO 3183-3: 1980) - March 19, 1997.
- ISO/DIS 4037-3, *X and gamma reference radiation for calibrating dosemeters and dose rate meters and for determining their response as a function of photon energy - Part 3: Area and personal dosemeters* - March 19, 1997.
- ISO/DIS 9000-3, *Quality management and quality assurance standards - Part 3: Guidelines for the application of ISO 9001: 1994 to the development, supply, installation and maintenance of computer software* (revision of ISO 9000-3: 1991) - March 12, 1997.
- ISO/DIS 10294-2, *Fire resistance tests - Fire dampers for air distribution systems - Part 2: Classification, criteria and field of application of test results* - April 23, 1997.
- ISO/DIS 11722, *Solid mineral fuels - Hard coal - Determination of moisture in the analysis sample by drying in nitrogen* - March 26, 1997.
- ISO/DIS 12567, *Thermal insulation - Determination of thermal resistance of components - Hot box method for doors and windows* - March 19, 1997.
- ISO/DIS 13463, *Specification for nuclear-grade of plutonium dioxide powder for fabrication of LWR MOX fuel* - April 2, 1997.
- ISO/DIS 14021, *Environmental labels and declarations - Self-declaration environmental claims - Guidelines and definition and usage of terms* - March 19, 1997.
- ISO/DIS 14180, *Guidelines for the sampling of coal seams* - April 2, 1997.
- prEN 12664, *Building materials - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Dry and moist products of medium and low thermal resistance* - May 19, 1997.
- prEN 50271, *Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen - Requirements and tests for detectors using software and digital technologies* - April 6, 1997.

The following newly published international standards are available from ANSI

- IEC 831-1: 1996, *Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1000 V - Part 1: General - Performance, testing and rating - Safety requirements - Guide for installation and operation.*
- IEC 1435: 1996, *Nuclear Instrumentation - High-purity germanium crystals for radiation detectors.*
- IEC 1646: 1996, *Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval.*
- ISO 128-20: 1996, *Technical drawings - General principles of presentation - Part 20: Basic conventions for lines.*
- ISO 6293-1: 1996, *Petroleum products - Determination of saponification number - Part 1: Colour-indicator titration method.*
- ISO 7220: 1996, *Information and documentation - Presentation of catalogues of standards.*
- ISO 7503-3: 1996, *Evaluation of surface contamination - Part 3: Isomeric transition and electron capture emitters, low energy beta-emitters (E_{bmax}<0,15 MeV).*
- ISO 10075-2: 1996, *Ergonomic principles related to mental workload - Part 2: Design principles.*
- ISO 10294-1: 1996, *Fire resistance tests - Fire dampers for air distribution systems - Part 1: Test method.*
- ISO 10647: 1996, *Procedures for calibrating and determining the response of neutron-measuring devices used for radiation protection purposes.*
- ISO 11755: 1996, *Cylinders in bundles for permanent and liquefiable gases (excluding acetylene) - Inspection at time of filling.*

American Society for Testing and Materials

Standards activities of the American Society for Testing and Materials (ASTM) are published monthly in *ASTM Standardization News.* Orders for subscriptions or single copies of ASTM *Standardization News* may be submitted to ASTM, Subscription Dept.-SN, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. For information regarding ASTM membership, contact the Membership Services Department at 610-832-9692. ASTM publications may be ordered from the ASTM Customer Services Department at 610-832-9585 (FAX 610-832-9555). Comments on listed draft standards may be submitted by contacting the ASTM Standards Coordination Department at the above address. Questions may be addressed to the Technical Committee Operations Division at 610-832-9743 (FAX 610-832-9666). The ASTM World Wide Web home page can be found at the following URL: **http://www.astm.org**. The following listings are extracted from *ASTM Standardization News* and are representative of NGS development activities that may be relevant to DOE operations.

(Continued on Page 8)

Standards Actions (Continued from Page 7)

The following ASTM standards are currently in coordination (the due date for all items is March 10, 1997):

- New Standard, *Specification for Compressed Round Stranded Aluminum Conductors Using Single Input Wire Construction* (Ref. Z4208Z).
- New Standard, *Practice for Calculating Thermal Endurance of Materials From Thermogravimetric Decomposition Data* (Ref. Z4492Z).
- New Standard, *Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials* (Ref. Z4946Z).
- New Standard, *Guide for Representative Sampling for Management of Waste and Contaminated Media* (Ref. Z5586Z).
- New Standard, *Test Method for Determining the Acceptability of Aggregates for Use in Sulfur Polymer Cement Concrete* (Ref. Z6276Z).
- New Standard, *Specification for Welded Headed Bars for Concrete Reinforcement* (Ref. Z6647Z).
- A 965-96, *Specification for Steel Forgings, Austenitic, for Pressure and High Temperature Parts* (new standard).
- E 1117-86 (1990), *Practice for Design of Fuel Alcohol Manufacturing Facilities* (revised standard).

The following newly published standards are available from ASTM:

- C 754-96, *Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products* (revised standard).
- C 1345-96, *Test Method for the Analysis of Total and Isotopic Uranium and Total Thorium in Soils by Inductively Coupled Plasma-Mass Spectrometry* (new standard).
- C 1349-96, *Specification for Architectural Flat Glass Clad Polycarbonate* (new standard).
- D 4490-96, *Practice for Measuring the Concentration of Toxic Gases or Vapors Using Detector Tubes* (revised standard).
- D 4915-96, *Guide for Manual Sampling of Coal From Tops of Railroad Cars* (revised standard).
- D 5872-95, *Guide for Use of Casing Advancement Drilling, Methods for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices* (new standard).
- E 108-96, *Test Methods for Fire Tests of Roof Coverings* (revised standard).
- E 973M-96, (Includes change to title), *Test Method for Determination of the Spectral Mismatch Parameter Between a Photovoltaic Device and a Photovoltaic Reference Cell [Metric]* (revised standard).

American National Standards Projects Initiated

The following is a list of proposed new American National Standards or revisions to existing American National Standards submitted to ANSI by accredited standards developers. DOE employees or contractors interested in participating in these activities should contact the appropriate standards developing organization. DOE-TSL-4 lists the DOE representatives on NGS committees. If no DOE representative is listed, contact the TSPO for information on participating in NGS activities.

American Society for Testing and Materials

Office: 100 Barr Harbor Drive
West Conshohocken, PA 19428
Contact: Bode Buckley
- ASTM Z5859Z, *Specification for Fire Resistive Joint Systems* (new standard).

Institute of Electrical and Electronics Engineers

Office: 445 Hoes Lane, P. O. Box 1331
Piscataway, NJ 08855-1331
Contact: Luigi Napoli
- IEEE 1491, *Guide for Selection and Use of Battery Monitoring Equipment in Stationary Applications* (new standard).

National Safety Council

Office: 1121 Spring Lake Drive
Itasca, IL 60143
Contact: Alan F. Hoskin
- Z16.5, *Occupational Safety and Health Incident Surveillance* (new standard).

Underwriters Laboratories, Inc.

Office: 1655 Scott Blvd.
Santa Clara, CA 95050
Contact: Derrick Martin
- UL 343, *Standard for Safety for Pumps for Oil-Burning Appliances* (revision of ANSI/UL 343-1992).

Comments or Questions

If you have any questions or comments, please contact Rick Serbu (EH-31), Manager, DOE Technical Standards Program Office (TSPO), phone 301-903-2856, FAX 301-903-6172, Email **Richard.Serbu@eh.doe.gov**. Questions or comments may also be referred to Don Spellman, c/o Performance Assurance Project Office, Oak Ridge National Laboratory, P.O. Box 2009, Oak Ridge, Tennessee 37831-8065, phone 423-574-7891, FAX 423-574-0382, Email **spellmandj@ornl.gov**.

The TSPO would like to be kept informed of the status of technical standards that are being prepared or coordinated for DOE. Please provide this information to the TSPO at 423-574-7886, Email **lj8@ornl.gov**.

Let's Collaborate on Global Standards! (Continued from Page 1)
Effective and useful ICT standards are key to realization of the National Information Infrastructure (NII) and the Global Information Infrastructure (GII). Participation in the standardization process is important to achieve and maintain global competitiveness.

Is There a Growing U.S. Disinterest in Standards?

We face a conundrum: at a time when standards for effective interchange of information are becoming more critical to the marketplace — indeed, to society in general — there appears to be a growing disinterest in the subject within the United States. For example, participation in *de jure* activities is dwindling. This is especially true in the regional standards bodies of the Americas and the Pacific Rim. The regional standards activities and their strong support (that is, aggressive, well organized, funded, and with a proactive agenda) by the national bodies in the European Common Market continue to thrive. There is a message here for us. Is anyone listening? Does anybody care? Will we wake up in time?

The life cycle for information technology is currently measured in months, while the average time to develop and publish a new consensus-based open ICT standard is measured in years. Many people are working standards issues for the Information Superhighway era, but they are using a standards development process that was designed to address problems of an industrial era. How to develop ICT standards that keep pace with technology evolution is a complex but important issue. Consortia do not have the best answer.

Although profiles are considered to be politically incorrect in some circles, they are a very important tool of which the U.S. ICT industry should take advantage. The U.S. ICT community needs to come together and collectively discover better and faster ways to build and promote the acceptance of functional performance standards that articulate user-consumer requirements and market needs. Making use of an effective regional fora can provide the means for achieving this — this is important to the future health of the U.S. ICT industry.

Can We Harness Technology?

We face an ever accelerating pace of change — social, political and technological. Recent innovations such as the Internet are significant factors in reshaping business and society. Throughout history, no other technology has ever become so quickly ubiquitous worldwide. The dramatic convergence of information and communications technologies and the exploding global growth of networks and messaging systems such as the Internet, Usenet, consumer online services, bulletin boards, and others, has unprecedented impact.

We are confronted daily with new ideas and paradigms for information sharing, business partnering, electronic communication — virtual enterprises, "cyber" offices, distributed manufacturing, and others. There is a continuous stream of evolving new technology concepts and components: multimedia, virtual reality, data warehousing, and fractal technology, to name a few. Traditional lines of demarcation across industry sectors — manufacturing, transportation, finance, health care, and others — have blurred and present additional new challenges. Along with this phenomenal technological evolution and success are a host of complex and difficult to resolve new issues such as privacy, security, intellectual property rights, reliability, legacy data, and cultural absorption of technology. For example, the rapid shifts that we are witnessing through technology convergence to implement electronic commerce occur faster than most of the supporting institutional framework and legal infrastructure/ underpinnings can cope with. It seems that our technology is changing faster than we can absorb socially or politically.

It appears that our biggest challenge is the effective harnessing of technology. How do we build virtual manufacturing and distribution enterprises in the 21st Century? How do we successfully integrate components and functions in the office and home? What is most important is not the myriad and continuously evolving new components of the technology, but rather, how we apply them in our business enterprises, our homes, and our society. We need to learn how to better manage change. This is chiefly a "people" issue: if we do not capture the hearts and minds of people, transform attitudes, and invoke new ways of thinking, we will not accomplish much. We need to identify and remove impediments to effective absorption of new technology. ICT standards can be an important and effective tool in doing this.

A Challenge to the Standards Community

There is a relationship between standards and competitiveness — we need to appreciate their critical role in moving to the information society. We need to find better ways to articulate and agree upon the means by which functional performance standards that address user requirements and market needs are rapidly developed. The global standards community (for example, the International Organization for Standardization, International Electrotechnical Committee, International Telephone and Telegraph Union, Internet Society) needs to collectively focus on a structure and rapid process that results in widely used interoperable products in the marketplace based upon open standards for computer-based information and communications technologies. We need to stop the current fragmentation and duplication of effort. We need to better coordinate activities, share information, and start collaborative efforts.

Our challenge, then, is to effectively harness technology and find better ways to manage cultural and social change. Making the ICT standards process work better (achieving global recognition and marketplace relevance) could be the standards community's contribution to this endeavor. However, this will require changed attitudes, new vision and strong leadership — elements conspicuously missing within the United States at present.

The National Technology Transfer and Advancement (NTTA) Act Triggers Issues for 1997

The December 17, 1997 issue of *The Marley Organization* newsletter (Email **chyertmo@ct1.nai.net**) contains a number of comments on the developing activities triggered by NTTA. The National Institute of Standards and Technology (NIST)(**http://www.nist.gov/**) is identified as a key player, and four documents are recommended for reader consideration: (1) Public Law 104-113 (**http://cabo.org/pl104113.htm**), (2) The NIST Implementation Plan (**http://ts.nist.gov/ts/htdocs/210/plan.htm**), (3) The Current (October 1993) OMB Circular A-119 (**http://www.whitehouse.gov/WH/EOP/OMB/html/circulars/a119/a119.html**), and (4) the proposed revision to OMB Circular A-119 (**http://www.whitehouse.gov/WH/EOP/OMB/html/fedreg/a119rev.html**).

The World of Standards

NEWS BRIEFS

Update on Proposed International Occupational Safety and Health Management System Standards

One of our feature articles in the September 1996 edition of *The Standards Forum* concerned an initiative for pursuing the development of international occupational safety and health (OSH) management systems standards. The results from a May 1996 workshop on the topic sponsored by the American National Standards Institute (ANSI) indicated that an overwhelming majority of stakeholders did not support this initiative. The information obtained by ANSI was presented at an international workshop hosted by the International Organization for Standardization (ISO) held on September 5-6, 1996, in Geneva, Switzerland.

We recently received information from Jim McCabe, ANSI, and Don Harvey, DP-45, that the ISO Technical Management Board (TMB) has decided that no further action should be taken at this time to initiate activity within ISO in the field of Occupational Health and Safety Management Systems standards. This decision was reached at the TMB meeting on January 27-28, 1997. The TMB noted that the outcome from the international workshop indicated there was little support from the main stakeholders for ISO to develop international standards in the field of Occupational Health and Safety Management Systems.

The TMB also noted that several ISO member bodies were developing standards in this area that could be of use to other member bodies. As such, the TMB invited ISO member bodies to report to the ISO Central Secretariat on the development of standards in this field at the national and regional level for subsequent publication of the information in the ISO Bulletin.

DOE Metrology Meeting

A meeting to address DOE metrology issues and concerns is scheduled for March 19–20, 1997 at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland. The meeting will provide an overview of DOE metrology and will establish a centralized, DOE-sponsored group to help identify metrology needs and spearhead DOE metrology efforts. One of the key issues will be the acceptance by the general membership of a proposed charter. A key purpose stated in the proposed charter is to serve “as a topical committee on metrology for the Technical Standards Program.” Other metrology issues to be addressed will include communication, resources, uniformity, and other common areas of concern.

Those attending will form a standing committee to be recognized by the DOE Technical Standards Program. Membership will be open to all DOE and DOE contractor metrology personnel. In addition to adopting a charter, the participating members will address initiating a position paper on metrology, developing ways to share information and resources to improve cost-effective metrology services and other related issues.

Address questions to Bob Wayland, Sandia National Laboratories, 505-271-7917, FAX 505-271-7974 or Email **jrwayla@sandia.gov**.

NIST Metric Web Page

The National Institute of Standards and Technology (NIST) Physics Laboratory has a new home page on metric (SI) units at:

http://www.physics.nist.gov/SI.

The page provides access to four documents: (1) "The Guide to the International System of Units" gives definitions and guidelines, (2) "The International System of Units" is an English language translation of a brochure published by the International Bureau of Weights and Measures, (3) "Metric System of Measurement: Interpretation of the International System of Units for the United States" provides the Department of Commerce interpretation of the SI for the United States, and (4) “Relationships of the SI Derived Units with Special Names and the SI Base Units” is a diagram showing how the 21 SI-derived units with special names are related to the seven SI base units.

Upcoming Meetings

April 15-17, 1997

DOE Backup Power Working Group

Shilo Inn - Richland, Washington

The backup power working group meets semiannually to foster safe, practical, and effective testing, maintenance, operation, and installation of systems and equipment used to provide backup electrical power at DOE facilities. The agenda for this meeting is to discuss engine instrumentation, power quality, reliability trending, and methods to streamline the change control process. Recent experiences will also be discussed and breakout sessions will be conducted to discuss engine generators, uninteruptable power supplies, and station batteries. Technical standards initiatives will also be reviewed.

For more information, contact John Fredlund, 301-903-3059; Email **john.fredlund@dp.doe.gov**; or contact the Internet site: **https://www2.dp.doe.gov:443/CTG_p/CTGP/bpwg/bpwg.htm**.

April 22-25, 1997

ANS Sixth Topical Meeting on Emergency Preparedness and Response

Cathedral Hill Hotel - San Francisco, California

The American Nuclear Society (ANS) Sixth Topical Meeting on Emergency Preparedness and Response, is sponsored by the ANS's Environmental Sciences Division, Northern California Section. The Department of Energy and Lawrence Livermore National Laboratory (LLNL) are also sponsors of this meeting. The meeting provides an opportunity to present and discuss recent innovative advances in response and mitigation capabilities for nuclear, chemical, and natural emergencies. Topical areas to be discussed at this meeting are:

1. emergency preparedness, planning, and response for nuclear and chemical accidents at local, state, federal, and international levels;
2. technology advances related to environmental and source term monitoring, meteorological measurements, environmental transport and dispersion modeling, health effects, decision making systems, etc.;
3. facility emergency management;
4. training;
5. public affairs;
6. exercises/lessons learned and responses to actual events and
7. regulatory issues.

For more information, contact: Sav Mancieri, **mancieri1@llnl.gov**, LLNL, P.O. Box 808, Livermore, CA 94551, phone: 510-422-6920; FAX: 510-422-2470.

May 26-30, 1997

Fifth International Conference on Nuclear Engineering

Acropolis Convention Center - Rhodes Area Nice, France

Theme: *Nuclear Advances Through Global Cooperation*

The American Society of Mechanical Engineers International (ASME), the Societe Francaise D'Energie Nucleaire (SFEN) and the Japan Society of Mechanical Engineers (JSME) are jointly organizing the Fifth International Conference on Nuclear Engineering in 1997.

For more information, contact B. Bigalke, ASME, 345 East 47th St., New York, New York 10017, USA, Phone: 212-705-7057; FAX: 212-705-7856, or **http://www.asme.org/conf/icone5/iconefrm.html**.

June 1-5, 1997

1997 American Nuclear Society (ANS) Annual Meeting

Marriott's Orlando World Center - Orlando, Florida

Theme: *Nuclear Science and Technology - A Partnership Among Academia, Industry, Utilities, and National Laboratories*

For more information, contact General Chair Thomas F. Plunkett, Florida Power & Light Company, P.O. Box 14000, Juno Beach, Florida 33408-0420; phone 561-694-4220; Email **tom_plunkett@email.fpo.com**.

There will be an embedded topical meeting on Advanced Reactor Safety (ARS '97), sponsored by the ANS Nuclear Reactor Safety Division. For information, contact General Chair George F. Flanagan, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, Tennessee 37831-6398; phone 423-574-8541; Email **ggf@ornl.gov**.

July 8-10, 1997

The DOE Technical Standards Program 1997 Workshop

Loews L'Enfant Plaza Hotel - Washington, D.C.

See the insert in this publication.

August 25-26, 1997

50th Anniversary Annual Standards Engineering Society (SES) Conference

Opryland Hotel & Conference Center - Nashville, Tennessee

The conference theme and agenda are under development and should be available in the near future.

For more information, contact Don Kear, SES Executive Director, **Dlkgen@aol.com**.

Standardization Drives Improvements at Palo Verde

Adapted from Nuclear Energy Insight, September 1996.

When the decision was made to build the Palo Verde nuclear power plant, the builders recognized the virtues of standardization: reduced costs, greater efficiencies and simplicity in operations, maintenance, training and procurement, and increased safety. Hence, they ordered three identical pressurized water reactors. But the economies and efficiencies weren't realized immediately.

During construction in the 1980s, design flaws made standardization "...a curse. If there was a problem in one unit, there was a problem in all three," said a Palo Verde vice president. Once all units were operating in 1988, Palo Verde again missed out on the synergies created by standardization—this time, because plant management felt greater rewards would be reaped by running each unit as a separate entity, to "create competition."

What it created, in fact, was replication of effort, as each unit—with individual operations and maintenance organizations—kept pioneering ways to accomplish the same tasks. Sharing of resources and knowledge was rare. It wasn't until mid-1994, when the plant began capitalizing on the virtues of standardization.

"We now focus on making the site—not just a unit—successful," says the plant's senior vice president. "Standardization now is the engine that's driving improvement at Palo Verde. We have one maintenance department. One operations department. One radiation protection department." And one refueling team, adds the outage director. "That means the same folks who did the last outage do the next, and the lessons learned are accumulated in one organization."

Be an early bird!

***The Standards Forum* and *Standards Actions* are on the World Wide Web at least a week ahead of hardcopy distribution. We are a part of the Technical Standards Program (TSP) Home Page, which features lists of Technical Standards, lists of personnel involved in TSP and non-Government standards activities, hot links to other technical standards organizations, and much more!**

You can catch us at:
http://apollo.osti.gov/html/techstds/techstds.html

The OSTI Corner

Shipping Costs For DOE Technical Standards

By Madelyn Wilson, DOE Office of Scientific and Technical Information (OSTI).

As a result of funding reductions for Departmental shipping and postage, the following changes are being instituted for both initial and on-demand distribution of copies of DOE technical standards:

- Automatic or initial distribution of these documents to program recipients will continue. However, the documents will be disseminated via fourth-class mail.
- All charges associated with on-demand requests for printed copies of technical standards will be incurred by the requester; each on-demand order will be assessed an additional $4.00 per shipment (up to 9 documents per shipment) to offset the *first class* shipping costs.

These changes will permit us to maintain a high level of customer service in providing both printed and electronic copies of DOE technical standards.

As the 21st century draws near, OSTI's ability to continue delivering timely and accurate information on the DOE Technical Standards Program remains contingent upon the effective use of existing and emerging technological capabilities for the management and dissemination of technical standards information. The World Wide Web is increasingly becoming the medium of choice as we continuously seek alternative measures to minimize costs to the users of technical standards. OSTI, in partnership with the Office of Nuclear Safety Policy and Standards and Oak Ridge National Laboratory, is committed to leveraging these technological advancements to better serve all stakeholders of the DOE Technical Standards Program.

The **Standards** *Forum*

Editor ..... Marty Marchbanks

Distribution: If you would like to have your name added to (or removed from) the mailing list for this publication, or you need to make an address change, please notify Marty Marchbanks, Oak Ridge National Laboratory (ORNL), 423-241-3658; FAX: 423-574-0382; Email: **mmf@ornl.gov**.

Comments: If you have any questions or comments please contact Rick Serbu, EH-31, 301-903-2856; Email: **Richard.Serbu@eh.doe.gov**. If you have any questions or comments on DOE standards projects, please call Don Spellman, ORNL, 423-574-7891; Email: **spellmandj@ornl.gov**.

Publication: ORNL and DOE's Office of Scientific and Technical Information publish *The Standards Forum* quarterly for the DOE Technical Standards Program.